

ALTERATION DETECTION APPARATUS AND METHOD THEREOF

ABSTRACT OF THE DISCLOSURE

5 The present invention is directed to the detection of
what part of an image alteration was added to by
embedding an electronic watermark in the image. More
particularly, embedding part 30 renders as pairs two each
of DCT blocks of luminance component Y of an image,
randomly selects, by using a random number, mutually
10 corresponding DCT coefficients from each DCT block
contained in the pairs, and manipulates so that the
relationship among these DCT coefficients represent data
according to a certain rule, and then embeds the data.
If alteration is added to this image, the DCT
15 coefficients contained in the pairs in the altered part
do not observe the above rule and represent different
values from the original data. Extraction part 40
extracts data from the image, and makes decision by
majority to estimate the initially embedded data to
20 detect and display the pairs from which different data
form the estimated data was extracted as those to which
alteration was added.